

We claim:

1. An energy management device for a vehicle seatbelt comprising:
a seatbelt spool, and a portion of a seatbelt wound on the seatbelt spool;
a stationary member;
a magnetic member movable by at least one magnetic coil, relative to the stationary member for causing a frictional engagement between the stationary member and the seatbelt spool;
a safety system controller electrically connected to energize the at least one magnetic coil; and
at least one sensor connected in data transmitting relation to the safety system controller;
wherein the seatbelt spool has an internal cylindrical surface, and the at least one magnetic coil is part of an electromagnet which is repelled from the stationary member towards the seatbelt spool internal cylindrical surface to frictionally engage said internal cylindrical surface.
2. The energy management device for a vehicle seatbelt of claim 1 and further comprising a plurality of magnetic members each containing a magnetic coil electrically connected to the safety system controller, the plurality of electromagnets positioned circumferentially about the stationary member and radially inwardly of the seatbelt spool internal cylindrical surface and movable by said magnetic coil, relative to the stationary member for causing a frictional engagement between the stationary member and the seatbelt spool.
3. The energy management device for a vehicle seatbelt of claim 3 wherein portions of the stationary member form ribs which prevent the plurality of electromagnets from sliding along the stationary member.
4. An energy management device for a vehicle seatbelt comprising:

a spool, and a cable wound on the spool mounted for rotation with respect to a stationary member;

a seatbelt;

a member through which the seatbelt passes, wherein the cable is connected to the member, so the vehicle occupant can move forward against the seatbelt by a motion of the ring which unwinds cable from the spool;

a magnetic member movable by at least one magnetic coil, relative to the stationary member for causing a frictional engagement between the stationary member and the spool; and

a safety system controller electrically connected to the magnetic coil to energize the at least one magnetic coil;

at least one sensor connected in data transmitting relation to the safety system controller;

wherein the seatbelt spool has an internal cylindrical surface, and the at least one magnetic coil is part of an electromagnet which is repelled from the stationary member towards the seatbelt spool internal cylindrical surface to frictionally engage said internal cylindrical surface.

5. The energy management device for a vehicle seatbelt of claim 4 wherein the seatbelt is a shoulder belt, and the cable extends over a pulley mounted to the B-pillar of automobile to support the ring through which the shoulder belt passes.

6. The energy management device for a vehicle seatbelt of claim 5 wherein the seatbelt spool has an internal cylindrical surface, and the at least one magnetic coil is part of an electromagnet which is repelled from the stationary member towards the seatbelt spool internal cylindrical surface to frictionally engage said internal cylindrical surface

7. The energy management device for a vehicle seatbelt claim 5 wherein a plurality of electromagnets each containing a magnetic coil electrically connected to the safety system controller, and which are

positioned circumferentially about the stationary member and radially inwardly of the seatbelt spool internal cylindrical surface.

8. The energy management device for a vehicle seatbelt of claim 7 wherein portions of the stationary member form ribs which prevent the plurality of electromagnets from sliding along the stationary member.